

**PRE-APPEAL BRIEF REQUEST FOR  
REVIEW**

Docket Number 042933/298965

**(filed with the Notice of Appeal)**

Application Number 09/625,201

Filed July 21, 2000

First Named Inventor Natividade Lobo

Art Unit 2611

Examiner Kevin Michael Burd

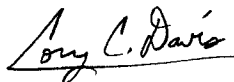
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

Respectfully submitted,



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Attachment  
Reasons for Requesting Pre-Appeal Brief Request For Review

**I. Claims 1-6, 8-13, 19-24, 26-27 & 29-33 are not anticipated by Valentine**

Claims 1-6, 8-13, 19-24, 26-27 and 29-33 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Valentine (U.S. Patent No. (USP) 5,748,678). Claim 1 requires, *inter alia*, a “method for defining ... *a pulse function modulating a data stream* ... to compensate for distortion by a component of the transmitter, ... the ... system has ... *cost parameters*, and the *pulse function for modulating is determined by: defining cost functions* representing the deviation ... of the *cost parameters* ... and defining the amplitude of the pulse ... frequencies in dependence on the cost functions *and* the distortion ....” Valentine does not teach or suggest at least the above features of claim 1.

In rejecting claim 1, the Examiner continues to rely on col. 1, lines 9-40, col. 4, lines 9-32 and FIG. 4 of Valentine for the proposition that Valentine teaches the features of claim 1. Applicant respectfully disagrees and submits that the Examiner is giving the reference credit for more than what it actually teaches. Valentine, in contrast to claim 1, is merely directed to a radio apparatus 10 that reduces distortion caused by interference from an adjacent channel when the radio apparatus operates in a non-linear region. (Col. 1, lines 23-27) Valentine discloses the use of a pre-distortion system utilizing a training routine to reduce intermodulation products in adjacent channels. As can be seen in FIG. 4 of Valentine, input signals (i.e., baseband signals I, Q) are selectably provided (via switch 62) to either a full-rate modulator 64 or a half-rate modulator 66 where they are modulated prior to being sent to a transmitter chain of the transmitter. Valentine discloses that during training, the half-rate modulator 66 is selected. The cited portions of Valentine, at best, disclose that “[d]uring training the reduced rate modulator is selected so that modulated signals” (I, Q) “are transmitted at reduced rates which reduce intermodulation products in adjacent channels.” (Col. 3, lines 58-63) Conversely, Valentine describes that “the full rate modulator is employed during normal operation, after training, when full linearization has been achieved, for transmitting normal traffic.” (Col. 4, lines 27-32) Contrary to the Examiner’s allegations, and as pointed out in the Amendment filed December 28, 2006, the cited portions of Valentine, at best, disclose the adjustment of a pre-distortion circuit 28 which adjusts baseband signals (via a training routine) following modulation of the baseband signals. Since Valentine discloses

adjusting baseband signals after modulation of baseband signals, Valentine does not teach or suggest at least adjusting a *pulse function that is used for modulating* a “data stream for transmission ... to compensate for distortion by a component of the transmitter,” as required by claim 1. The interrelationship of claim elements is simply not taught by Valentine. (MPEP § 2131) Applicant notes that in the Advisory Action dated January 17, 2007, the Examiner has not addressed the above argument. To the contrary, the grounds of rejection in the Advisory Action dated January 17, 2007 merely contains the sweeping assertion that “Valentine discloses adjusting a pulse function ... used for modulating a data stream ... determined by selecting either a full ... or half rate modulation” without providing any substantive explanation whatsoever to address Applicant’s argument provided above. Applicant submits that this practice is contrary to the mandate required by MPEP § 707.07(f) which provides that “[w]here [A]pplicant traverses any rejection, the Examiner should, if he ... repeats the rejection, take note of [A]pplicant’s argument and answer the substance of it.” As such, Applicant’s arguments with respect to claim 1 remain rebutted and claim 1 is patentable at least for those reasons previously of record.

On pg. 2 of the Final Office Action, the Examiner posits that the rates of modulation in Valentine correspond to the claimed cost functions and that the interference on adjacent channels corresponds to the claimed cost parameters. Applicant disagrees. Nowhere in Valentine is there any mention of cost functions and cost parameters and there certainly is no expressed or implied teaching or suggestion in Valentine relating to “cost functions [that] are rates of modulation” and “cost parameters, which are interference on adjacent channels,” as suggested by the Examiner. (See *id.*) As pointed out in the Amendments filed July 12, 2006 and December 28, 2006, a skilled artisan would not construe the full and half rates of modulation of Valentine to be cost functions. Instead, those skilled in the art clearly understand that cost functions are functions which are positive and get smaller the better a system operates.<sup>1</sup> In Valentine, the modulation rate is selected as a function of the training or the normal operation phases of the transmitter. The modulation rate does not represent the deviation of a cost parameter from a desired system criterion, as claimed. The modulation rate and the associated pulse function are not selected depending on the interference on adjacent channels, as suggested by the Examiner. Rather, the selection criterion for the modulation is exclusively “training” or “normal operation.” Valentine,

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<sup>1</sup> See specification pg. 9, lines 11-12 & pgs. 16-17 & 18.

at best, considers the generated interference on adjacent channels in the form of a feedback. The feedback is only used for adjusting a pre-distortion component and is not provided to the switch 68 selecting between the modulation rates. Contrary to the Examiner's assertion, selection of the modulation rate and associated pulse function are not determined on the basis of interference on adjacent channels. Applicant therefore submits that Valentine fails to teach or suggest at least "*defining cost functions* representing the *deviation* of a respective one of the *cost parameters* from the associated desired system criterion," as claimed. Contrary to the mandate of MPEP § 707.07(f), Applicant again submits that the Examiner has not addressed the arguments set forth above and specifically at pgs. 10-11 of the December 28, 2006 Amendment.

Nowhere in Valentine is there any teaching or suggestion that the amplitude of baseband signals of Valentine over a range of frequencies is dependent on "the cost function" (alleged rates of modulation) "and the distortion for which compensation is to be made," as contended by the Examiner.<sup>2</sup> Even *assuming arguendo* that the pulse functions resulting from the modulators have different amplitudes over a range of frequencies, these distributions do not depend on a cost function and distortion. Moreover, since there is no reason to switch from the half rate modulation to the full rate modulation once a linearization and a low interference has been obtained and since the full rate modulation will not result in a lower interference than the half rate modulation, Valentine fails to teach or suggest at least "the pulse ...determined by: defining cost functions ... *and* defining the amplitude of the pulse function over a range of frequencies in *dependence* on the *cost function and the distortion* ...," as claimed. In contrast to the mandate of MPEP § 707.07(f), Applicant again submits that the Examiner has not addressed the arguments set forth above and specifically at pgs. 12-13 of the December 28, 2006 Amendment. As such, claim 1 is patentable at least for those reasons previously of record.

Based on at least the forgoing reasons, Applicant respectfully submits that Valentine does not teach or suggest all of the features of claim 1 and respectfully requests reversal of the § 102(e) rejection of claim 1 and its dependent claims 2-9, and 17-18.

Since claims 10, 23, 29 and 33 contain features analogous to, though not necessarily coextensive with, the features recited in claim 1, Applicant submits that claims 10, 23, 29 and 33 are patentable at least for reasons analogous to those submitted for claim 1. As such, Applicant requests reversal of the § 102(e) rejection of claim 10 and its dependent claims 11-

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<sup>2</sup> See pg. 5 of the Final Office Action

16 and 19-22 as well as claim 23 and claim 29 and its dependent claims 30-31 as well as claim 33. Additionally, contrary to MPEP § 707.07(f), Applicant notes that the Examiner has not taken note and answered the substance of the arguments set forth at pgs. 13-20 of the December 28, 2006 Amendment. As such, claims 10, 23, 29 and 33 are patentable at least for those reasons previously of record. Similarly, since the Examiner has not addressed the arguments set forth at pgs. 15-19 of the December 28, 2006 Amendment, claim 24 and its dependent claim 25 as well as claims 26, 27 and 32 are patentable at least for those reasons previously of record.

## **II. Claims 6, 7, 14, 15, 16, 17, 18 & 25 are not obvious**

Claims 6, 7, 14-18 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Valentine in various combinations of Summers (USP 5,070,254), Miya (USP 5,572,516), Applicant's admitted prior art (APA) and Dent (USP 5,909,460). Applicant respectfully submits that none of Summers, Miya, APA and Dent cure the deficiencies of Valentine discussed above with respect to independent claims 1, 10 and 24. Accordingly, Applicant respectfully submits that independent claims 1, 10 and 24, and by dependency claims 2-9, 17-18, 11-16, 19-22 and 25 are patentably distinct from Valentine, Summers, Miya, APA and Dent, taken individually or in any combination. For at least the reasons above, Applicant submits that the rejection of claims 6-7 over Valentine in view of Summers, the rejection of claims 14 and 17-18 over Valentine in view of Miya, the rejection of claims 15-16 over Valentine in view of APA and the rejection of claim 25 over Valentine in view of Dent are overcome.

## **III. Claim 28 is not obvious in view of Miya and Valentine**

Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Miya in view of Valentine. Claim 28 requires, "[a] dual mode ... device operable in a first mode in a TDMA ... and a second mode in a CDMA ... system, comprising," *inter alia*, "a pulse function generator for *shaping* a data stream in accordance with respective pulse functions ... *and distortion* by a component of the transmitter."

Applicant submits that the combination does not teach or suggest at least the above features of claim 28. On pg. 10 of the Final Office Action, the Examiner alleges that "Miya discloses a dual mode ... device operable in a first" and second modes (i.e., TDMA and CDMA) and that "[p]ulses are generated according to the transmission mode selected." Applicant notes that the Examiner correctly concedes that Miya does not teach all of the features of claim 28 and

Applicant submits that Valentine does not make up for the deficiencies of Miya. Nowhere in any portion, of Valentine (either alone or in combination with Miya) is there any teaching or suggestion relating to selecting a pulse function depending on distortion, as claimed. Rather, Valentine, at best, discloses selection of a pulse function depending only on a current phase of the system (i.e., training or normal operation). Valentine does not teach or suggest a pulse generator which is configured to use a pulse function that depends on an operating mode and distortion. As such, the combination is deficient and does not teach or suggest “a dual mode ... device,” comprising “a pulse function generator for shaping a data stream in accordance with ... the mode of operation of the ... device,” corresponding to a first mode in a TDMA system and a second mode in a CDMA system, *and distortion* by a component of the transmitter, as claimed.

Even *assuming arguendo* that Miya discloses a dual mode device operable in a first and second modes (i.e., TDMA and CDMA) and that pulses are generated according to the transmission mode selected, as suggested by the Examiner, Applicant submits that the combination still does not teach or suggest the features of claim 28. There is no expressed or implied teaching or suggestion in Valentine that the radio apparatus 10 disclosed therein is a dual mode radio apparatus operable in a first mode such as TDMA and a second mode such as CDMA and that the radio 10 is capable of adjusting pulses for both TDMA and CDMA based on distortion generated by a component of the transmitter 12. (See MPEP § 2143.01) In contrast, Valentine, at best, discloses that the radio 10 is capable of adjusting signals that conform to a single digital radio standard. As such, the Examiner’s proposed modification is deficient given that it changes the principle of operation of the radio apparatus of Valentine and there is no reasonable expectation that the radio 10 can be successfully modified in the manner suggested. (MPEP §§ 2143.01, 2143.02) There simply is no motivation in Miya and Valentine (alone or in combination) to modify the radio 10 in the manner suggested by the Examiner. The only teaching comes from Applicant’s own disclosure which constitutes impermissible hindsight reconstruction according to *In re Vaeck* 20 USPQ2d 1438, 1442 (Fed. Cir. 1991) Contrary to MPEP § 707.07(f), the Examiner has not addressed the arguments set forth above and at pgs. 22-24 of the December 28, 2006 Amendment. Claim 28 is therefore patentable at least for those reasons previously of record as well as the foregoing reasons. Applicant therefore requests reversal of the § 103(a) rejection of claim 28. Accordingly, for all the reasons discussed above, Applicant respectfully requests that the rejections of claims 1-33 be reversed.